FIGURE 2 illustrates a standing pressure wave in a closed organ pipe;

FIGURE 3 depicts a high-level view of a system implementing the concepts of the present invention;

FIGURE 4 illustrates a preferred embodiment of the present invention;

FIGURE 5a shows a standard forcing function which may be obtained by a prior art system;

FIGURE 5b depicts an input forcing function obtained by use of the concepts of the present invention;

FIGURE 6a shows a standard lamp input current;

FIGURE 6b depicts a lamp input current obtained by use of the concepts of the present invention; and

FIGURE 7 illustrates an alternate embodiment of the present invention.

Please substitute the following amended paragraph for pending paragraph [0012]:

[0012] Using this hypothesis, it has been determined that striations in a lamp can be reduced or eliminated by operating a ballast having an inverter at other than a 50% duty ratio. That is, in a two switch inverter, for example, one switch is configured to operate longer than the remaining switch. As long as this offset in the duty ratio is blocked, such as by a capacitor, no DC current will flow through the lamp's arc. Rather, for example, the positive portion of the of the lamp current cycle will have a shorter duration but a higher amplitude than the succeeding negative portion of the cycle, or vice versa. Consequently, a ballast circuit has been developed which provides an asymmetric input current to the lamp. By altering the symmetry of the current in this manner, the repetitive resonance frequencies which are believed to create the striations are interfered with thereby eliminating the visual appearance of striations.

Please substitute the following amended paragraph for pending paragraph [0013]:

[0013] FIGURE 3 sets forth an exemplary lamp lighting system 20 which incorporates the concepts of the present invention. An input power source 22 supplies power to a ballast 24. Ballast 24 includes an AC-to-DC converter 26 which provides a DC voltage on DC bus 28 which, in turn, provides power to a lamp input current generating circuit

30. The lamp input current generating circuit 30 is configured to generate an asymmetric alternating current on lamp input line 32 that provides power to gas discharge lamp 34. In one embodiment, the lamp input current generating circuit 30 can be an inverter circuit or portions of the inverter circuit, and will be described primarily with this focus. However, it is to be appreciated that other components and circuits capable of generating or supplying an a symmetric alternating current to lamp 34 may also be used. These additional circuits, which may be represented by block 30 of FIGURE 3, may or may not be part of the inverting circuit. For example, a sub-circuit subsequent to the inverting mechanism can be used to alter asymmetric generated signal into an asymmetric form.

Please substitute the following amended paragraph for pending paragraph [0014]:

Set forth in FIGURE 4 is one embodiment of inverter circuit 30 suitable for incorporating concepts of the present invention. Inverting circuits of this type are well known in the industry and, therefore, the circuit will not be described in great detail except where concepts of the present invention are implemented. The circuit comprises complementary switches 40 and 42, bipolar junction transistors in this exemplary embodiment. The emitters of switches 40 and 42 are connected in common to a series configured resonant circuit 44 including capacitor 46 and inductor 48. A blocking capacitor 50 is connected to the remaining end of resonant circuit 44 and is series connected to lamp 34 at node 52 with the remaining end of lamp 34 connected to the junction of capacitor 46 and inductor 48 at node 54. A feedback inductor 56, a tap from inductor 48, is connected to the common emitters of switches 40 and 42 at node 58 with the remaining end of inductor 56 series connected to driving inductor 60 which is connected, in turn to feedback capacitor 62. The remaining end of feedback capacitor 62 is connected to the base terminals of switches 40 and 42. A first resistor 64 is connected from the base terminals of switches 40 and 42 to the collector terminal of switch 40 which is also connected to the positive lead of DC bus 28 at node 66. The collector terminal of switch 42 is connected to ground 68 which is connected to the negative lead of DC bus 28 at node 70. Driving inductor 60 is bridged by output clamping circuit 72 comprising back-to-back, series connected zener diodes 74 and 76. Capacitor 78 bridges resonant circuit 44, and resistor 80 is connected between node 58 and ground 68. Reverse-

conducting diode **82** bridges the emitter and collector terminals of switch **40**, with the cathode of diode **82** connected to the collector terminal of switch **40**. Reverse-conducting diode **84** bridges the emitter and collector terminals of switch **42**, with the anode of diode **84** connected to the collector terminal of switch **42**. A preferred method of producing asymmetry in the lamp input current for the circuit illustrated in FIGURE 4 is to configure switches **40** and **42** with mismatched h_{FE} (commonly called beta). This causes the transistor with a lower h_{FE} to conduct for a shorter period of time, thereby causing the on time of switches **40** and **42** to be asymmetrical. That is, one BJT will conduct for a shorter period of time than the other will.

Please substitute the following amended paragraph for pending paragraph [0015]:

[0015] FIGURE 5b shows an asymmetrical forcing function **86** of the present invention compared to a typical symmetrical forcing function **88** of FIGURE 5a of prior art ballast inverters. The forcing function is a voltage as measured from node **58** with respect to node **52** in FIGURE 4. The particular forcing function shown is configured to have a short positive duration and a long negative duration. The positive and negative durations can be reversed with equal efficacy.

Please substitute the following amended paragraph for pending paragraph [0016]:

[0016] FIGURE 6b illustrates the effect of asymmetrical forcing function **86**. Asymmetrical load current **90**, measured as the current flowing from node **54** to node **52**, and can be compared to a symmetrical load current **92** shown in FIGURE 6a. The positive portion of the asymmetrical current cycle is of shorter duration than the negative portion of the cycle, however, the positive portion is of a higher amplitude than the negative portion. Symmetrical load current **92**, however, shows equal positive and negative durations, and equal positive and negative amplitudes. There is no DC component to asymmetrical load current **90** because DC current is blocked by blocking capacitor **50**.

Please substitute the following amended paragraph for pending paragraph [0018]: